

Work Order ID 85304

85304

Page 1

June-05-12 3:32:55 PM

Item ID: D3676-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Bubble Window, LH

Start Date: 05/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 19/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: *MLJ*

Date: *12/06/05*

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D3676

Rev C

100

0.00

100

HAND FINISHING THERMOFORMING

Thermoform

Memo

0.00

Thermoforming Machine

Set up Machine as per folio FTA 018 and D3676 program

B 12/06/05

110

0.00

110

HAND FINISHING THERMOFORMING

Thermoform

Memo

0.00

Thermoforming Machine

Cut Blanks to 38" by 52"

1+1

B 12/06/05

120

0.00

120

THERMOFORMING MACHINE

Thermoform

Memo

0.00

Thermoforming Machine

Thermoform as per Dwg. D3676 and Folio FTA 018Dwg. Rev.
C Folio Rev.

41

B 12/06/05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

June-05-12 3:32:55 PM

Page 2

Thermoforming Machine

1) Trim off excess flange material
2) Buff out any light scratches or blemishes
3) Etch part number and batch number

W/O: 85304		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D 3676-1 PAR #: _____ Fault Category: Thermal Fatigue NCR: Yes No DQA: OK Date: 12/1/26
 Resolution: _____ Disposition: Scrap QA: N/C Closed: OK Date: 12/6/27

NCR: 12-1535		WORK ORDER NON-CONFORMANCE (NCR) 1043.35						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/06/19	130.	WINDOW BURST. Too HOT.	WDP 12/26/21 12/6/27 Q51042	Reduce Heat to compensate for weather. Scrap & Replace 1 part	WDP 12/06/19	WDP 12.06.21	WDP 12/6/21 12/6/27 Q51042	WDP 12.06.21

NOTE: Date & initial all entries

Work Order ID 85304

June-05-12 3:32:55 PM

85304

Page 3

Item ID: D3676-1

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Stop ***NS2***

Item Name: Bubble Window, LH

Start Date: 05/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 19/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

QC2- Inspect parts off machine FAI/FAIB

0.00

160

QC

Memo

0.00

Quality Control

1 *B 12/06/20*

170

QC5- Inspect part completeness to step on W/O

0.00

170

QC

Memo

0.00

Quality Control

1) Visually inspect for clarity, and proper formation.

1 *12:06:21*

180

Identify as per dwg & Stock Location:

0.00

180

Packaging

Memo

0.00

Packaging

PAP
85304

[Signature]

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

Work Order ID 85304***85304***

Page 4

June-05-12 3:32:55 PM

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Revision ID:

Stop ***NS2***

Item Name: Bubble Window, LH

Start Date: 05/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 19/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

12/6/25 J
MW 12/06/22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

June-05-12 3:32:58 PM

Page 1

Work Order ID: 85304

85304

Parent Item: D3676-1

D3676-1

Parent Item Name: Bubble Window, LH

Start Date: 05/06/2012

Required Date: 19/06/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev A New Product 01/24/2008 DL Verified:JLM
IPP Rev B Change Mat. to .236"" 08/29/2008 DL

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MACRLICS.236		Purchased	No			110	sf	173.3855	13.75	13.75688			

MACRI ICS 236

Plexiglass G .236"

**

Location

therm

Loc Qty

173.3854524

80.513174

92.8722784

Loc Code

119347

120972

27.52 sq ft

OK
12/06/21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order: 85304
Description:	Part Number: D3626-1
Inspection Dwg: D3626-1 Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST
THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than <u>N/A</u> "				
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

Measured by: Sh

Date: 12/06/18

TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
46.0	± 0.100	46.0"	✓			
29.1	± 0.100	29"	✓			
0.050"	MIN	0.085"	✓			
0.070"	MIN	0.110"	✓			
0.090"	MIN	0.118"	✓			

Measured by: Sh

Date: 12/06/21

Audited by: Sh

Date: 12-06-21

Preliminary Approval:

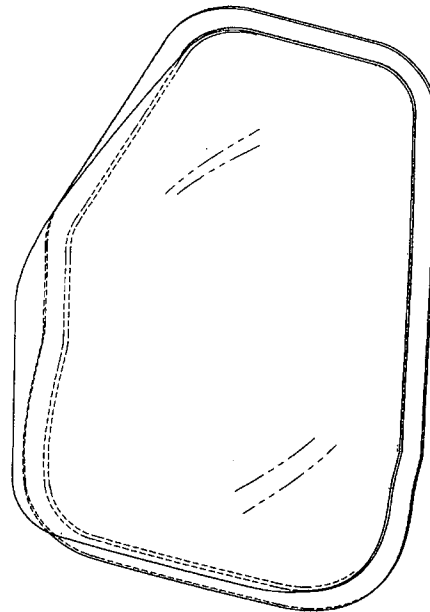
Date:

Rev	Date	Change	Revised by	Approved
B	10.04.14	Added preliminary approval	KJ	

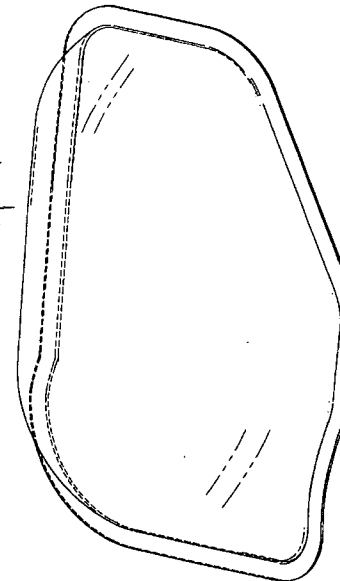
10-04-14

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 85304 MLC
12/06/05



 **D3676-1 FULL HEIGHT BUBBLE WINDOW (LH)**



 **D3676-2 FULL HEIGHT BUBBLE WINDOW (RH)**

RELEASED
2012-03-08

REV.	DESCRIPTION	BY	DATE
C	ADDED D3676-2 FULL HEIGHT BUBBLE WINDOW (RH). REMOVED NOTES ON SHEET 1. REFORMAT NOTES 6 & 8 ON SHEET 2. D3676-1 WAS "412 BUBBLE WINDOW" NOW "FULL HEIGHT BUBBLE WINDOW (LH)".	AP	12.03.01
B	REVISED TOLERANCE ON MINIMUM THICKNESSES (ZN A8/B8-2). REASON: PRODUCTION FACILITY.	MB	08.10.27
A	NEW ISSUE	MB	08.02.29
DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP	DRAWING NO.	REV. C
CHECKED	SEP	D3676	SHEET 1 OF 3
MFG. APPR.	SEP	TITLE	SCALE
APPROVED	SEP	FULL HEIGHT BUBBLE WINDOW	NTS
DE APPR.	SEP	DATE 12.03.01	
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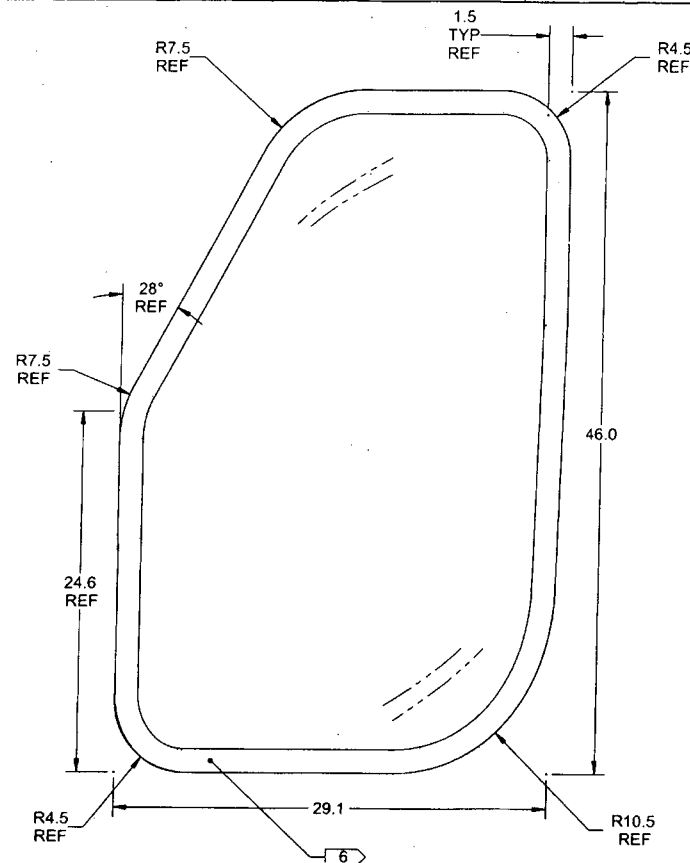
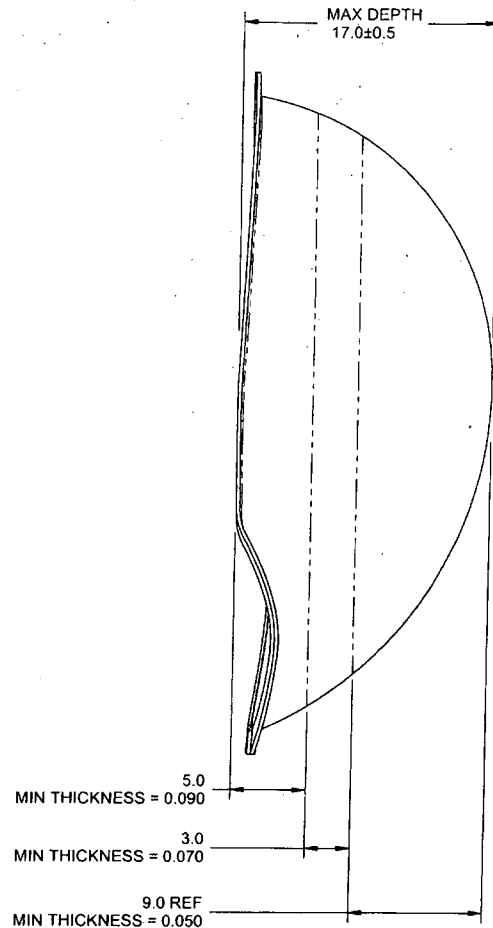
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3676-1 FULL HEIGHT BUBBLE WINDOW (LH)

RELEASED
2012-03-08

NOTES:

- 1) MATERIAL: PLEXIGLASS G CLEAR CAST ACRYLIC SHEET PER LP-391 TYPE 1 GRADE C OR POLYCAST II CLEAR ACRYLIC SHEET PER MIL-P-5425, 0.236 THICK (REF. DART SPEC. M-ACRYLIC-S.236)
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.010 TO 0.020 MAX
- 6) IDENTIFICATION: ENGRAVE P/N "D3676-1" & B/N "BXXXX" ON FLANGE WITHIN 0.25" OF BUBBLE. USE 0.125" LETTERS TO MAX. DEPTH OF 0.005" PER DART QSI 044 6.4 WITH VIBRATING STYLUS.
- 7) WEIGHT: 11.0 lbs
- 8) THERMOFORM PER DART QSI 022 USING DT8992

DESIGN	MB	DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3676	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		FULL HEIGHT BUBBLE WINDOW	NTS
DATE	12.03.01	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

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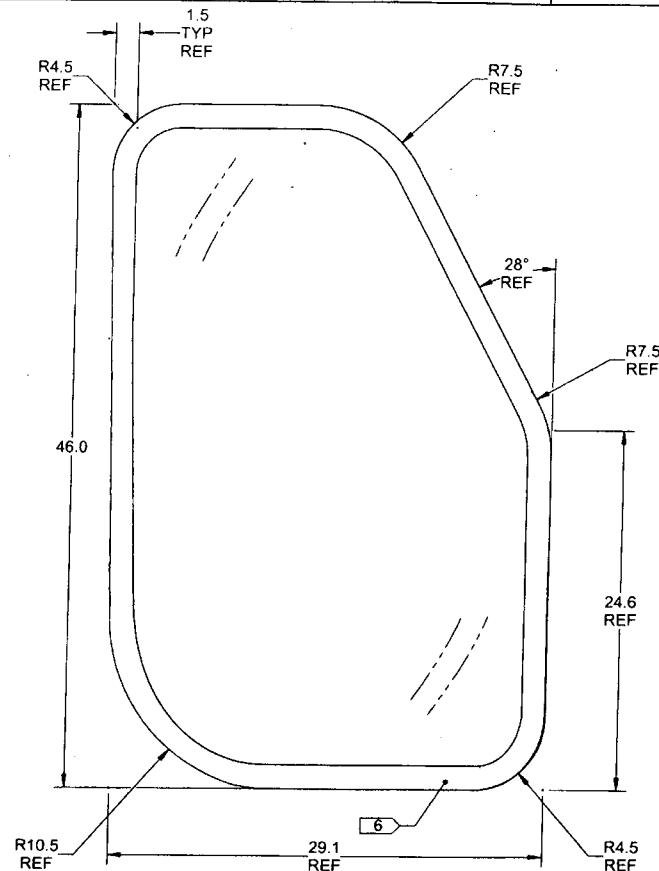
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NOTE: Date & initial all entries

MIN THICKNESS = 0.090
MIN THICKNESS = 0.070
MIN THICKNESS = 0.050

MAX DEPTH
17.0±0.5



D3676-2 FULL HEIGHT BUBBLE WINDOW (RH)

- NOTES:**
1) MATERIAL: PLEXIGLASS G CLEAR CAST ACRYLIC SHEET PER LP-391 TYPE 1 GRADE C OR POLYCAST II CLEAR ACRYLIC SHEET PER MIL-P-5425, 0.236 THICK (REF. DART SPEC. M-ACRYLIC-S.236)
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.010 TO 0.020 MAX
6) IDENTIFICATION: ENGRAVE P/N "D3676-2" & B/N "BXXXXX" ON FLANGE WITHIN 0.25" OF BUBBLE. USE 0.125" LETTERS TO MAX. DEPTH OF 0.005" PER DART QSI 044 6.4 WITH VIBRATING STYLUS.
7) WEIGHT: 11.0 lbs
8) THERMOFORM PER DART QSI 022 USING DT9794

DESIGN	MB	DART AEROSPACE LTD	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AP	DRAWING NO. D3676	REV. C
MFG. APPR.	AP	SHEET 3 OF 3	
APPROVED	AP	TITLE	SCALE
DE APPR.	AP	FULL HEIGHT BUBBLE WINDOW	NTS
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RELEASED
2012-03-01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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